

DPM 5109

TURBO OIL 2380

REC'D MAR 01 1988

**EXXON** COMPANY, U.S.A.  
A DIVISION OF EXXON CORPORATION

DATE ISSUED: 09/11/87  
SUPERSEDES DATE: 09/03/87

**MATERIAL SAFETY DATA SHEET**

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

**A. IDENTIFICATION AND EMERGENCY INFORMATION**

**PRODUCT NAME**  
TURBO OIL 2380

**PRODUCT CODE**  
217556 - 02380

**CHEMICAL NAME**  
Aviation Synthetic Lubricant

**CAS NUMBER**  
Complex Mixture  
CAS Number not applicable

**PRODUCT APPEARANCE AND ODOR**  
Clear liquid, yellow color  
Mild fatty odor

**EMERGENCY TELEPHONE NUMBER**  
(713) 656-3424

**B. COMPONENTS AND HAZARD INFORMATION****COMPONENTS****CAS NO. OF  
COMPONENTS****APPROXIMATE  
CONCENTRATION**

Base lubricant of polyol esters  
and  
Proprietary additives

Mixture

100%

See Section E for Health and Hazard Information

**HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)**

Health Flammability Reactivity

**BASIS**

1

1

0

Recommended by Exxon

**EXPOSURE LIMIT FOR TOTAL PRODUCT****BASIS**

5 mg/m3 for mist in air

Recommended by Exxon

**C. PRIMARY ROUTES OF ENTRY  
AND EMERGENCY AND FIRST AID PROCEDURES****EYE CONTACT**

If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

**SKIN**

In case of skin contact, remove any contaminated clothing and wash skin thoroughly with soap and water.

**INHALATION**

Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

800 10 9AM 1730

TURBO OIL 2380

**INGESTION**

If ingested, DO NOT induce vomiting; call a physician immediately.

**D. FIRE AND EXPLOSION HAZARD INFORMATION****FLASH POINT (MINIMUM)**

246°C (475°F)  
ASTM D 92, Cleveland Open Cup

**AUTOIGNITION TEMPERATURE**

395°C (743°F)

**NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION**

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

**HANDLING PRECAUTIONS**

Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

**FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)**

Estimated values: Lower Flammable Limit 1%      Upper Flammable Limit 12%

**EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES**

Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Eighth Edition (1984):

Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

**DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS**

Fumes, smoke, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion.

**"EMPTY" CONTAINER WARNING**

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

**E. HEALTH AND HAZARD INFORMATION****VARIABILITY AMONG INDIVIDUALS**

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

**EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)**

Prolonged or repeated skin contact may cause skin irritation.

**NATURE OF HAZARD AND TOXICITY INFORMATION**

In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as vacuum distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils possibly leading to irritation and dermatitis. However, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Continuous contact with used motor oil has caused skin cancer in animal tests.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

**PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE**

None Recognized

**F. PHYSICAL DATA**

The following data are approximate or typical values and should not be used for precise design purposes.

**BOILING RANGE**

Approximately 400°C (752°F) IBP  
to 540°C (1004°F) FBP

**VAPOR PRESSURE**

Less than 0.01 mm Hg @ 20°C

**SPECIFIC GRAVITY (15.6 C/15.6 C)**

0.98

**VAPOR DENSITY (AIR = 1)**

Greater than 5

**MOLECULAR WEIGHT**

Not determined

**PERCENT VOLATILE BY VOLUME**

Negligible from open container  
in 4 hours @ 38°C (100°F)

**pH**

Essentially neutral

**EVAPORATION RATE @ 1 ATM. AND 25 C (77 F)**

(n-BUTYL ACETATE = 1)  
Less than 0.001

**POUR, CONGEALING OR MELTING POINT**

-57°C (-70°F)  
Pour Point by ASTM D 97

**SOLUBILITY IN WATER @ 1 ATM. AND 25 C (77 F)**

Negligible; less than 0.1%

**VISCOSITY**

5.0 cSt @ 210°F

**G. REACTIVITY**

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

## H. ENVIRONMENTAL INFORMATION

### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Recover free product. Add sand, earth or other suitable absorbent to spill area. Minimize breathing vapors. Minimize skin contact. Open all windows and doors. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas. Assure conformity with applicable governmental regulations.

### REPORTABLE QUANTITY (RQ), EPA REGULATION 40 CFR 302

Not applicable

### THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355

Not applicable

### TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372

Not applicable

	Acute	Chronic	Fire	Pressure	Reactive	
EPA HAZARD CLASSIFICATION CODE:	Hazard	Hazard	Hazard	Hazard	Hazard	Not Applicable XXX

## I. PROTECTION AND PRECAUTIONS

### VENTILATION

Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. Use explosion-proof equipment. No smoking or open lights.

### RESPIRATORY PROTECTION

Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

### PROTECTIVE GLOVES

Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

### EYE PROTECTION

Use splash goggles or face shield when eye contact may occur.

### OTHER PROTECTIVE EQUIPMENT

Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing which could result in prolonged or repeated skin contact.

### WORK PRACTICES / ENGINEERING CONTROLS

Keep containers and storage containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

### PERSONAL HYGIENE

Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean before reuse; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

## J. TRANSPORTATION INFORMATION

### TRANSPORTATION INCIDENT INFORMATION

For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.3.

**DOT IDENTIFICATION NUMBER**

Not applicable

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxon shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use.

The Environmental Information included under Section H hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Exxon Company, U.S.A. in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Exxon's interpretation of the available data.

**FOR ADDITIONAL INFORMATION ON HEALTH EFFECTS CONTACT:**

DIRECTOR OF INDUSTRIAL HYGIENE  
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(713) 656-2443

**FOR OTHER PRODUCT INFORMATION CONTACT:**

MANAGER, MARKETING TECHNICAL SERVICES  
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